

K-C Docket No.: 18208
Serial No.: 10/627,558

In the United States Patent and Trademark Office

Appellants:	Ganesh Chandra Deka et al.	Docket No.:	18208
Serial No.:	10/627,558	Group:	1771
Confirmation No:	3392	Examiner:	Sperty, Arden B.
Filed:	July 25, 2003	Date:	June 5, 2006
For:	Nonwoven Fabric With Abrasion Resistance And Reduced Surface Fuzziness		

Brief on Appeal to the Board of Patent Appeals and Interferences

Mail Stop Appeal Brief - Patents
Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. 41.37 Appellants respectfully submit this Brief in support of their Appeal of Examiner Sperty's **Final Rejection** of claims 1-24, 36 and 37 which was mailed on July 28, 2005.

On November 28, 2005, Appellants, pursuant to 37 C.F.R. 41.31 transmitted their Notice of Appeal, along with a Pre-Appeal Brief Request for Review. The Notice of Panel Decision from Pre-Appeal Brief Review was mailed March 3, 2006. Thus, the usual time for filing this Brief ends April 3, 2006. Accordingly, a Petition for a two month extension of the time is submitted herewith, bringing the time to file this Brief to Monday, June 5, 2006. Therefore, it is believed that this Brief is timely filed along with the petition for two month extension of the time. However, should other extension fees be determined to be required, please charge any additional extension fees to deposit account number 11-0875.

Real Party in Interest

The present Application has been assigned to Kimberly-Clark Worldwide, Inc.

Related Appeals and Interferences

There are no other appeals or interferences known to Appellants, their legal representatives or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision on this appeal.

Status of the Claims

Claims 1-24, 36 and 37 remain in the application with all of these claims (1-24, 36 and 37) being finally rejected. Claims 25-35 were previously withdrawn as non-elected claims and in accord with the requirement stated in the Final Office Action, Appellants requested cancellation of these claims in their amendment paper filed October 28, 2005. This amendment paper was initialed by the Examiner for entry into the record.

Status of Amendments Filed Subsequent to Final Rejection

In their After-Final paper filed October 28, 2005, Appellants requested cancellation of the previously withdrawn non-elected claims 25-35. The Examiner initialed this paper for entry into the record.

Summary of the Invention For Each Independent Claim

The present invention relates to a nonwoven web or nonwoven web laminate having an abrasion resistant surface. The abrasion resistant surface is rough, and it has a reduced surface fuzziness. As claimed in independent claim 1, the invention provides a nonwoven web including at least one side which is abrasion resistant, has a surface roughness of at least 20 μm , and has a fuzz-on-edge value less than 1.0 mm/mm. As claimed in independent claim 14, the invention provides a laminate having a first nonwoven web and a second nonwoven web. The first nonwoven web has two sides wherein a first side is abrasion resistant, has a surface roughness of at least 20 μm , and a fuzz-on-edge less than 1.0 mm/mm, and a second side which is adjacent to the second nonwoven web. The abrasion resistance of a material may be tested by the RAT or Reciprocating Abrasion Test wherein a fabric is rubbed or stroked with a silicone rubber abrasive material, and then evaluated for effects of the abrading treatment, such as fabric pilling and roping. Please see the specification at page 6 line 32

through page 7 line 16 for description of the Reciprocating Abrasion Test. The fuzz-on-edge may be tested by an image analysis used to determine the “fuzziness” of the surface of the nonwoven web, and which measures the intensity of protruding fiber loft in perimeter length per unit-edge length. Please see the specification at, for example, page 7 line 17 through page 8 line 6 for description of fuzz-on-edge. The surface roughness is tested by a stylus profilometry analysis wherein measurements of the surface irregularity of a material are taken using a stylus which is drawn across the surface of a material. Please see the specification at page 11 line 19 through page 12 line 10 for description of the stylus profilometry test. Such nonwoven webs may be produced according to the method in the specification at, for example, page 12 lines 15 through 20. Briefly, such a method includes the steps of providing a forming surface, supplying a liner material onto the forming surface, then forming a nonwoven web on the liner material, followed by bonding the nonwoven web to form a bonded nonwoven web that is also at least partially bonded to the liner material, and then, removing the bonded nonwoven web from the liner material.

Statement of Each Ground of Rejection Presented For Review

Ground 1. Claims 1-24, 36 and 37 stand finally rejected under 35 U.S.C. §102(b) as allegedly being anticipated by and thus unpatentable over U.S. Pat. No. 6,169,045 to Pike et al. (hereinafter “Pike et al. `045”). Claims 1-24, 36 and 37 are argued as a group.

Ground 2. Claims 1-13 and 36 stand finally rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by and thus unpatentable over U.S. Pat. No. 5,605,749 to Pike et al. (hereinafter “Pike et al. `749”), or alternatively under 35 U.S.C. § 103(a) as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over Pike et al. `749. Claims 1-13 and 36 are argued as a group.

Argument

Ground 1. Anticipation rejection of claims 1-24, 36 and 37 over Pike et al. `045.

Referring to section 3 of the Final Office Action, claims 1-24, 36 and 37 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by and thus unpatentable over Pike et al. `045. The Pike et al. `045 reference relates to a lofty filter medium comprising a nonwoven

fiber web of crimped fibers that can be spunbond fibers, and the filter medium has a density between about 0.005 g/cm^3 and about 0.1 g/cm^3 (please see Abstract). As noted in the Final Office Action, the Pike et al. '045 reference discloses that conjugate polypropylene/polyethylene fibers can be used, and teach multilayer construction where individual layers can have different densities.

As was also noted in the Final Office Action, the Pike et al. '045 reference is silent as to at least two elements of the Appellants' claims -- the surface roughness of at least $20 \text{ }\mu\text{m}$, and a fuzz-on-edge value less than 1.0 mm/mm . The reasoning stated in the Office Action mailed January 13, 2005 (and copied in the Final Office Action mailed July 28, 2005) was that Pike et al. '045 webs would inherently meet these two elements because they were the same materials and made according to the same process.

Appellants disagree with the inherency position taken in the Office Actions. As stated in M.P.E.P. §2112, "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." (citing *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)). Appellants submit that neither the surface roughness element nor the fuzz-on-edge value element has been shown to necessarily flow from the Pike et al. '045 disclosure.

According to the teachings of the Pike et al. '045 disclosure, the process for forming those webs includes that the fibers are to be deposited directly onto the forming surface, also called a foraminous forming surface in the Examples of Pike et al. '045 (please see Summary, Examples at column 9 beginning line 24, and the process description cited by the Examiner at column 6 beginning line 34). In contrast, in the process for forming the nonwoven of the invention, the fibers are specifically not deposited directly onto the forming surface, but instead are formed onto a liner material that has itself been placed onto the forming surface. After the fibers for the nonwoven web are deposited onto the liner, the liner and nonwoven web are bonded, and, subsequently, the liner is removed from the nonwoven web, to form the abrasion resistant nonwoven web material. Please see Appellants' specification Summary at page 2 lines 22-30, Detailed Description at page 12 lines 12-33, and page 14 line 25 through page 15.

Therefore, Appellants respectfully submit that the assertion made in the Office Actions to attempt to support of a presumption of inherency – that the materials of Pike et al. '045 are made by the same process – is simply not correct. In the Final Office Action, Appellants' similar remarks were responded to by stating that the Examiner concluded, despite the differences in production processes shown between the cited Pike et al. references and Appellants' process, that the "similarities are sufficient enough" to deduce inherency of the properties. Appellants respectfully submit that this reasoning does not uphold a proper conclusion of inherency of the alleged inherent properties of Appellants' claims. As stated above, the standard is that the allegedly inherent characteristics necessarily flow from the art. Or, as further described in M.P.E.P. §2112 and citing *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" (Emphasis is added). Appellants submit that while a *similarity* as stated in the Office Actions may indicate that a certain thing may result, it is not sufficient to make clear that the missing elements are necessarily present.

Furthermore, Appellants wish to direct attention to the portion of their specification describing the Example and Comparative 2 nonwoven web materials (please see pages 23-26). For the purposes of the 35 U.S.C. §102(b) rejection over Pike et al. '045, note the Comparative 2 material is similar to the Pike et al. '045 materials at least because each material is a conjugate fiber spunbond web formed by a process including depositing the fibers directly onto the forming surface (instead of forming onto a liner material, bonding at least partially to the liner material, then having the liner material removed, as taught by the Appellants). In this regard, Appellants submit that it is much more accurate to say the Comparative 2 and Pike et al. '045 materials are "same materials by same process" than it is to assert the same of the Appellants' claimed material and Pike et al. '045 material.

Please note the information in the Appellants' specification in Tables 2 and 3 (page 26), which Appellants submit is relevant to further show that an assumption of inherency as to the

elements of surface roughness and fuzz-on-edge value is simply not correct. As shown in Table 2, two pieces of the Comparative 2 material were tested and had fuzz-on-edge values, as reported by the average PR/EL measurement, of about 1.5 and 2.2 mm/mm, whereas the claims require the fuzz-on-edge value to be less than 1.0. In addition, Table 3 shows that the average surface roughness measurement S_a for Comparative 2 material was 17.9, whereas the claims require the surface roughness of at least 20 microns. Because this information clearly shows that a material that is made similarly to the Pike et al. '045 material fails to meet the requirements of their claims, Appellants respectfully submit that these two requirements are not present in the cited art and that it is not reasonable to presume that these two requirements are inherently disclosed in the cited art.

In summary, it was asserted in the Office Actions that the elements required by independent claims 1 and 14 but missing from Pike et al. '045 were presumed inherent in the cited art. The reasoning for that presumption was explicitly based on the allegation that the cited art materials and the cited art processes were similar to Appellants' material and the process by which Appellants' material is made. Appellants provided rebuttal evidence against the basis supplied for the presumption by detailing clear and distinct differences between the cited process and their own process. In addition, even if the basis of the presumption of inherency should be deemed to be legally valid, Appellants' specification demonstrates evidence rebutting inherency by showing that materials which actually are similar to those in Pike et al. '045 do indeed fail to meet the missing claims requirements. For these reasons, it is Appellants' position that the rejection of claims 1-24, 36 and 37 over Pike et al. '045 has been shown to be untenable and should be **reversed** by the Board.

Ground 2. Anticipation (or obviousness) of claims 1-13 and 36 over Pike et al. '749.

Referring now to section 4 of the Final Office Action, claims 1-13 and 36 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by and thus unpatentable over Pike et al. '749, or alternatively under 35 U.S.C. § 103(a) as allegedly being obvious to one of ordinary skill in the art at the time the invention was made and thus unpatentable over Pike et al. '749.

The Pike et al. '749 reference relates to an active agent impregnated nonwoven (please see Abstract). As noted in the Office Actions, the Pike et al. '749 reference discloses that

conjugate fibers can be used, and the nonwoven can have a density between about 0.01 g/cm³ and about 0.1 g/cm³. The Office Action further noted that the Pike et al. '749 reference states the web can have abrasion resistance.

However, the Pike et al. '749 reference (as with the Pike et al. '045 reference discussed above in Ground 1) does not appear to disclose at least two elements of the Appellants' claim 1. That is, the surface roughness of at least 20 µm, and the fuzz-on-edge value less than 1.0 mm/mm are not disclosed by Pike et al. '749. The Final Office Action does allege that the mention of "low lint" by Pike et al. '749 at column 5 lines 44-47 anticipates or would obviously provide the required fuzz-on-edge element. However, with respect to the required surface roughness, the Office Actions do not appear to attempt to show that the Pike et al. '749 reference either explicitly or implicitly/inherently, or obviously, discloses this element.

Appellants disagree with the allegation that a mention of low lint anticipates or makes obvious their required fuzz-on-edge element. The disclosure of low-lint at column 5 lines 44-47 of Pike et al. '749 does not appear to be more than a statement recognizing that continuous fiber webs are, by their very nature (being continuous fibers), less likely to lose fibers (less likely to "lint") than are short fiber webs such as discontinuous fiber webs of staple fibers. In this regard, Appellants point out that that both their Example and Comparative 2 materials are continuous fiber webs, yet, as discussed above, the Comparative 2 material does not meet the required fuzz-on-edge value, while their Example material does. In addition, Appellants point out that the Pike et al. '749 materials as disclosed are produced in a fashion similar to Appellants' Comparative 2 material and the Pike et al. '045 material discussed above. Therefore, Appellants respectfully submit that the assertion that the low lint comment in Pike et al. '749 somehow anticipates or makes obvious Appellants' required fuzz-on-edge element is simply not correct.

In addition to asserting that the mention of low lint in Pike et al. '749 does not provide legal anticipation of Appellants' required fuzz-on-edge element, please note in particular that none of the Office Actions has as yet asserted or shown the Pike et al. '749 reference to either explicitly or implicitly (or inherently, or obviously, or in any way) disclose the surface roughness element required by Appellants' claims. For this reason alone, the rejection over the Pike et al. '749 reference should be withdrawn.

For the reasons stated above, it is Appellants' position that the rejection of claims 1-13 and 36 over Pike et al. '749 has been shown to be untenable and should be **reversed** by the Board.

Conclusion

For the reasons stated above it is Appellants' position that the all of the rejections of their claims have been shown to be untenable and should be **reversed** by the Board. That is, for the reasons set forth above, it is respectfully submitted that both of the rejections under 35 U.S.C. §102 (and alternatively under 35 U.S.C. §103) should be reversed. It is respectfully submitted that Appellant's claimed invention is neither expressly taught by nor inherent in the cited references, nor, alternatively, obvious from the cited references.

Please charge the \$500.00 fee (fee code 1402), pursuant to 37 C.F.R. 41.20(b)(2), for filing this Appeal Brief to Kimberly-Clark Worldwide, Inc. deposit account number 11-0875. Any additional prosecutorial fees which are due may also be charged to deposit account number 11-0875.

The undersigned may be reached at: 770-587-8908

Respectfully submitted,

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CERTIFICATE OF TRANSMISSION

I, Robert A. Ambrose, hereby certify that on June 5, 2006, this document is being transmitted to the United States Patent and Trademark Office, EFS-Web system.

By: /Robert A. Ambrose/

Robert A. Ambrose

Appendix – The Claims On Appeal

The claims on appeal are:

1. (original) A nonwoven web comprising at least one side which is abrasion resistant, has a surface roughness of at least 20 μm , and a fuzz-on-edge value less than 1.0 mm/mm.
2. (original) The nonwoven web of claim 1, wherein the nonwoven web comprises one or more a spunbond nonwoven web, a meltblown nonwoven web, a bonded carded web, an air-laid nonwoven web or a coform nonwoven web.
3. (original) The nonwoven web of claim 2, wherein the nonwoven web comprises a spunbond nonwoven web.
4. (original) The nonwoven web of claim 1, wherein the nonwoven web comprises monocomponent fibers, multicomponent fibers and/or multiconstituent fibers.
5. (original) The nonwoven web of claim 1, wherein the nonwoven web comprises crimped multicomponent fibers.
6. (original) The nonwoven web of claim 5, wherein the crimped multicomponent fibers comprise spunbond fibers.
7. (original) The nonwoven web of claims 1, wherein the nonwoven web has a density greater than about 0.005 g/cm³ and less than about 0.3 g/cm³.
8. (original) The nonwoven web of claim 1, wherein the fuzz-on-edge is less than 0.5 mm/mm.
9. (original) The nonwoven web of claim 1, wherein the nonwoven web comprises thermoplastic fibers.

10. (original) The nonwoven web of claim 9, wherein the thermoplastic fibers comprise at least one thermoplastic polymer selected from polyolefins, polyesters, polyamides, polycarbonates, polyurethanes, polyvinylchloride, polytetrafluoroethylene, polystyrene, polyethylene terephthalate, polylactic acid and copolymers and blends thereof.
11. (original) The nonwoven web of claim 1, wherein the nonwoven web comprises a bonded web of crimped continuous multicomponent spunbond fibers wherein the nonwoven web has a density greater than about 0.005 g/cm^3 and about 0.3 g/cm^3 .
12. (original) The nonwoven web of claim 11, wherein the fuzz-on-edge is less than 0.5 mm/mm.
13. (original) The nonwoven web of claim 11, wherein the multicomponent fibers comprise polypropylene as one component and a polyethylene as a second component.
14. (original) A laminate comprising a first nonwoven web and a second nonwoven web, wherein the first nonwoven web comprises two sides wherein a first side is abrasion resistant, has a surface roughness of at least $20 \text{ }\mu\text{m}$, and a fuzz-on-edge less than 1.0 mm/mm and a second side which is adjacent to the second nonwoven web.
15. (original) The laminate of claim 14, wherein the first nonwoven web has a density which is greater than the second nonwoven web.
16. (original) The laminate of claim 15, wherein the first nonwoven web has a density between about 0.05 g/cm^3 to about 0.30 g/cm^3 and the second nonwoven web has a density between about 0.005 g/cm^3 and about 0.1 g/cm^3 .
17. (original) The laminate of claim 14, wherein the first and second nonwoven webs each independently comprise a spunbond nonwoven web, a meltblown nonwoven web, a bonded carded web, an air-laid nonwoven web or a coform nonwoven web.
18. (original) The laminate of claim 14, wherein the first and second nonwoven webs comprise a spunbond nonwoven web.

19. (original) The laminate of claim 14, wherein the first and second nonwoven webs each independently comprise comprises monocomponent fibers, multicomponent fibers and/or multiconstituent fibers.
20. (original) The laminate of claim 19, wherein the spunbond fibers comprise crimped multicomponent fibers spunbond fibers.
21. (original) The laminate of claim 14, wherein the fuzz-on-edge of the first nonwoven web is less than 0.5 mm/mm.
22. (original) The laminate of claim 17, wherein the first and second nonwoven webs each comprise of thermoplastic fibers wherein the thermoplastic fibers comprises at least one thermoplastic polymer selected from polyolefins, polyesters, polyamides, polycarbonates, polyurethanes, polyvinylchloride, polytetrafluoroethylene, polystyrene, polyethylene terephthalate, polylactic acid and copolymers and blends thereof.
23. (original) The laminate of claim 17, wherein the first and second nonwoven webs each independently comprises a bonded web comprising crimped continuous multicomponent spunbond fibers wherein the first nonwoven web has a density greater than the second nonwoven web and the density of the first nonwoven web is between about 0.05 g/cm³ to about 0.30 g/cm³ and the second nonwoven web has a density between about 0.005 g/cm³ and about 0.1g/cm³.
24. (original) The laminate of claim 23, wherein the multicomponent fibers comprise polypropylene as one component and a polyethylene as a second component.
25. – 35. (canceled)
36. (original) A filter media comprising the nonwoven web of claim 1.
37. (original) A filter media comprising the laminate of claim 14.